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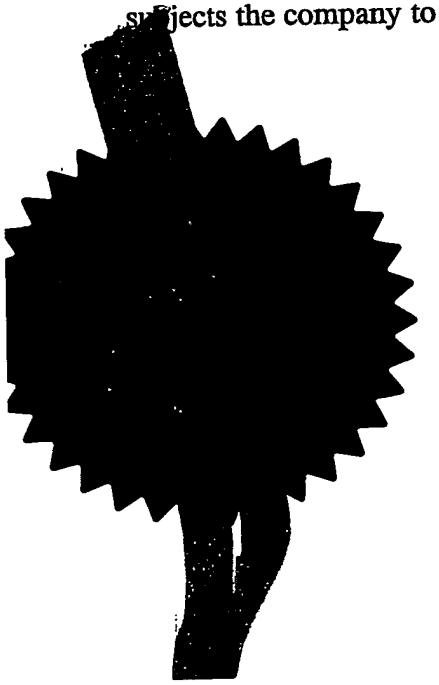

Signed R. Mahoney

Dated 18 October 2004

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Your reference **Connected Call Back (UK)** 0 8 OCT 2003

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The **Patent Office**

Request for grant of a Patent

Form 1/77 Patents Act 1977

1 Title of Invention

A method of enabling a wireless information device to access customer support services

2. Applicant's details

[X] First or only applicant

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	Agent's ADP Number	C03274 7270457002

4 Reference Number

Connected Call Back (UK)

5 Claiming an earlier application date

An earlier filing date is claimed:

Yes ☐ No ☒

Number of earlier application or patent number

Filing date

15 (4) (Divisional)	8(3)	12(6)	37(4)
☐	☐	☐	☐

6 Declaration of priority

Country of filing	Priority Application Number	Filing Date

7 Inventorship

The applicant(s) are the sole inventors/joint inventors

Yes ☐ No ☒

8 Checklist

		Continuation sheets	
Claims	2	Description	6
Abstract	0	Drawings	0

Priority Documents	~~Yes~~/No
Translations of Priority Documents	~~Yes~~/No
Patents Form 7/77	~~Yes~~/No
Patents Form 9/77	Yes/~~No~~
Patents Form 10/77	~~Yes~~/No

9 Request

We request the grant of a patent on the basis of this application

Signed: Origin Limited Date: 8 October 2003

(Origin Limited)

DUPLICATE

A METHOD OF ENABLING A WIRELESS INFORMATION DEVICE TO ACCESS CUSTOMER SUPPORT SERVICES

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to a method of enabling a wireless information device to access customer support services. The term 'wireless information device' used in this patent specification should be expansively construed to cover any kind of device with two way wireless information capabilities and includes without limitation radio telephones, smart phones, communicators, personal computers, computers and application specific devices. It includes devices able to communicate in any manner over any kind of network, such as GSM or UMTS, CDMA and WCDMA mobile radio, Bluetooth, IrDA etc. A customer support service is any kind of service offered to an end-user of a wireless information device that helps the user fully or properly take advantage of a product or service that is designed to be used by the end-user It therefore covers help systems from wireless service providers as well as any other kind of customer service function (e.g. call centres, enquiries, sales etc).

2. Description of the Prior Art

End-users of wireless information devices frequently need to speak with customer support services; these services usually operate an automated queuing system. But it can be very inconvenient having to stay on-hold whilst your call progresses up the queue, particularly if the end-user has to hold the device up to its ear during that time.

For providers of customer support services (such as wireless operators, mobile commerce sites etc.) it is very important that end-users have a good customer support experience; however, that can be a challenge given the fact that end-users will often need to be placed into an automated queuing system, with the inherent danger of being placed on-hold for excessive time.

In the wired Web world, this problem is partly addressed through web call-back systems: these involve a small 'call me' icon on a web site; when a user selects this icon, a prompt

comes up, requesting that the end-user types in its name, contact number and a convenient time to call. The information is provided to a customer service operator, who makes the voice call at the designated time. Web call-backs can be useful in situations where customers would rather deal with a person rather than navigate possibly complex web pages. One problem with these systems is that end-users often cannot reliably schedule a call for later on in the day; ideally, the end-user would often like to be called back immediately by a real person, but that is rarely possible.

SUMMARY OF THE INVENTION

The invention is a method of connecting a wireless information device operated by an end-user to a customer service computer, comprising the steps of;

(a) opening a data connection between the device and the customer support computer;

(b) keeping the data connection open whilst the device progresses up a queue of an automated queuing system connected to the customer service computer;

(c) initiating a voice call to the device when the device reaches the top of the queue so that a customer service operator can speak with the end-user.

Hence, the invention uses the data connection capability of, for example, GPRS and 3G mobile telephones, to allow the end-user to request a customer service operator to call them back (e.g. by selecting an on-screen icon, or through a menu selection). This avoids the need for the end-user to simply wait in a queuing system, which is likely to be especially appealing to GPRS and 3G users since connection charges may be significantly higher than 2G cellular costs. But, because there is a data connection open whilst the device progresses up the queue, it is possible for useful data to be transferred during this time. This data can assist the customer service operator in helping the end-user.

The data connection may remain active after the voice call has been started to enable the customer service operator to obtain data from the device of a kind that will assist the customer service operator in helping the end-user.

Data can also flow to the device over the data connection; this may indicate the queue position and/or likely time before a customer service operator will respond in person to the end-user by initiating the voice call. There may also be a visual indication that the data connection is open.

The device may be automatically queried by the computer to obtain information relevant to a request or query to be put to the customer service operator by the end-user. The information may for example include one or more of the following kinds of information:

(a) recent key strokes;

(b) recent remote web or WAP sites visited by the device;

(c) current state of the device;

(d) end-user's name;

(e) end-user's address;

(f) end-user's bank, credit and/or charge card details;

(g) end-user's password;

(h) goods and/or services recently requested or acquired by the end-user using the device;

(i) device usage profile or data;

(k) device geographic location data;

(l) device error logs;

(m) identification of all programs running on the device.

The device may display a user prompt requiring the end-user to consent to specifically requested kinds of information being sent to the customer service computer. The user prompt requires the end-user to satisfy an access control process before releasing the information to the computer.

DETAILED DESCRIPTION

The solution involves a software program on a mobile handset capable of some form of electronic data access, and a corresponding server which is accessible for data access to the mobile handset.

The server address can be chosen or provided in the mobile handset software and is in some way integrated into the customer support calling queue of some provider of products or services.

When a customer of some service (e.g. a customer of the mobile network itself, or a customer of any other kind of product or service) wishes to contact the relevant customer service department, rather than calling and waiting on hold for a customer service representative to become available, they use the software program on the handset to indicate their wish to be contacted by the appropriate customer service department. Alternatively the user of the handset can make a voice call into customer services, and customer service's call response centre, upon confirming their wish to initiate a customer support session, will verify that the appropriate software exists on the handset, and cause a connection to be initiated between the handset software and the customer support server.

In either case, the software on the handset, in conjunction with the customer services server software, through some kind of data connection, acknowledges that the user has made a request for support, and through some kind of querying process places enough information about the customer onto a queue so that the relevant customer services representative will be able to contact the user as soon as the required customer support resources become available. The querying process may involve the interactive navigation of a menu, which may provide the user with enough information or services to allow the customer to solve the problem themselves.

The now-established data connection from the customer's handset to the customer services server remains active, and allows for information such as estimated time remaining in queue to be shown to the customer. If the customer chooses to remain on

the waiting queue, a customer services representative who becomes available may have the ability to use the already established connection to query the handset and the customer for more information to solve the problem.

The customer support representative may choose to call the customer back, and the idea would be to leverage the fact that in 2.5G GSM and future mobile networks, the data connection can remain active (or suspended) during this conversation, allowing the customer support representative to further query the handset and customer for information.

The chief advantage of this invention is that the user has to spend less *perceived* time waiting on hold for customer service representatives, thus increasing customer satisfaction. As well, a connection between handset and customer services is established and ready when a customer services representative becomes available, which would allow for the representative to programmatically query the phone for much needed information without requiring the customer to answer a barrage of questions.

CLAIMS

1. A method of connecting a wireless information device operated by an end-user to a customer service computer, comprising the steps of:

(a) opening a data connection between the device and the customer support computer;

(b) keeping the data connection open whilst the device progresses up a queue of an automated queuing system connected to the customer service computer;

(c) initiating a voice call to the device when the device reaches the top of the queue so that a customer service operator can speak with the end-user.

2. The method of Claim 1 comprising the step of sending data from the device to the computer prior to the voice call being initiated, the sent data assisting a customer service operator in helping the end-user.

3. The method of Claim 2, in which the data connection is opened in response to input from the end-user to an on-screen dialog, prompt or icon.

4. The method of Claim 1 in which the data connection is opened in response to a voice call from the device.

5. The method of Claim 1 in which the data connection remains active after the voice call has been started to enable the customer service operator to obtain data from the device of a kind that will assist the customer service operator in helping the end-user.

6. The method of Claim 1 in which the device receives data sent over the data connection from the computer which indicates the queue position and/or likely time before a customer service operator will respond in person to the end-user by initiating the voice call.

7. The method of Claim 1 in which the device displays a visual indication indicating that the data connection is open.

8. The method of Claim 1 in which the device is automatically queried by the computer to obtain information relevant to a request or query to be put to the customer service operator by the end-user.

9. The method of Claim 8 in which the information includes one or more of the following kinds of information:

(a) recent key strokes;

(b) recent remote web or WAP sites visited by the device;

(c) current state of the device;

(d) end-user's name;

(e) end-user's address;

(f) end-user's bank, credit and/or charge card details;

(g) end-user's password;

(h) goods and/or services recently requested or acquired by the end-user using the device;

(i) device useage profile or data;

(k) device geographic location data;

(l) device error logs;

(m) identification of all programs running on the device.

10. The method of Claim 1 in which the device displays a user prompt requiring the end-user to consent to specifically requested kinds of information being sent to the customer service computer.

11. The method of Claim 10 in which the user prompt requires the end-user to satisfy an access control process before releasing the information to the computer.